IV. REMARKS

Section headings have been added to the specification as requested by the Examiner.

Takaota concerns "an image encoding apparatus for application to images expressed as respective frames of a digital video signal, whereby an image is converted into an array of blocks with specific blocks predetermined as being independent internally encoded blocks (D) and the remainder as predictively encoded blocks (A, B, C), with predicted pixel signal values for a predictively encoded block being derived by interpolation from pixel signal values of at least one pair of blocks which have been already encoded and enclose that predictively encoded block along he row or column direction or both the row and column directions. Encoding efficiency is enhanced.... .... by executing adaptive prediction by determining an optimum interpolation direction when there are two possible directions for deriving predicted pixel signal values for a block" (see abstract).

According to Takaota, **the direction of interpolation is chosen according to the location of the blocks used to derive the interpolated pixel values with respect to the block whose pixel values are to be predicted.** For example, if a block whose pixel values are to be predicted (i.e. derived by interpolation) has decoded neighbouring blocks to the left and right, interpolation in the horizontal direction is used to derive the predicted pixel values (e.g. interpolation of pixel values for block C described in paragraph [0037] of Takaota. Similarly, if a block whose pixel values are to be predicted has decoded neighbouring blocks above and below, interpolation in the vertical direction is used to derive the predicted

pixel values for the block (e.g. interpolation of pixel values for block B, described in paragraph [0042] of Takaota).

When a block has decoded neighbours both above and below and to the right and left, interpolation is performed in both the horizontal and vertical directions and a combined prediction is formed for the predicted pixel values (see paragraphs [0044] and [0045]). In a second embodiment of the invention (the description of which starts at paragraph [0055]), a choice of interpolation direction is made for blocks that have decoded neighbouring blocks above and below and to the left and right. This choice is based on an estimate of coding efficiency (column 20, line 57 to column 21, line 4) which can be determined in a number of ways. According to a first method (described in paragraph [0056]), interpolation is performed in both the horizontal and vertical directions and the predicted pixel values produced as a result of the respective interpolations are compared with the actual pixel values of the block to be predicted to form two sets of prediction error values. The respective sets of prediction error values are then supplied to an encoding efficiency judgement section, which operates on the prediction error values to judge which of the sets will result in generation of the smaller amount of code. Based on the result of that judgement, an interpolation direction is selected (column 21, lines 36 to 47). In an alternative method (described in paragraph [0065]) the interpolation direction is chosen by estimating the respective degrees of correlation of the reconstructed pixel values of each of the two pairs of blocks (above & below / to the left & right) whose values can be used in interpolation. This alternative method for selecting the interpolation direction provides certain technical advantages (as described in paragraph [0067]).

It should be appreciated that the method of selecting an interpolation direction described in Takaota differs significantly from the method claimed in the present application. It should also be noted that while the Applicants consider the claims as originally to define the present invention in a manner that is already patentably distinct from Takaota, the claims have been amended in order to clarify the subject matter for which protection is sought.

Now considering the claims in detail, the present invention involves "examining pixel values of a neighbouring block of a block to be predicted to determine a classification for the neighbouring block **according to the image contents of said neighbouring block**". A prediction method for the block to be predicted is then chosen on the basis of the classification. It should be appreciated that Takaota does not teach, nor does it suggest determination of a classification for a neighbouring block **according to the image contents of the neighbouring block** as claimed in all independent claims of the present application. In this respect, it should be noted that the method of selecting a direction of interpolation in Takaota involves choosing a direction of interpolation either:

1. by **considering the location of two neighbouring blocks on opposite sides of the block** whose pixel values are to be predicted (if neighbouring blocks on the left & right are present horizontal interpolation is used, or if neighbouring blocks above and below are present, vertical interpolation is used) or
2. by **considering the correlation between the pixel values of neighbouring blocks on opposite sides of the block** whose pixel values are to be predicted (see paragraph [0065]).

Neither of these operations involves determining a classification for **a neighbouring block according to the image contents of the neighbouring block.** The former (1) is based purely on the location of the neighbouring blocks and is not affected by the image contents of the neighbouring blocks to the left & right or above & below. The latter (2) simply indicates the similarity between neighbouring blocks on opposite sides of the block whose pixels values are to be predicted and again provides no information about the image contents of the neighbouring blocks.

Thus the rejection of claims 1-3, 7, 8, 11-14, 18, 19 and 22-27 under 35 USC 103 on Takaota should be withdrawn.

Further since Takaota does not suggest these features, these claims are unobvious over it.

Gonzales also fails to disclose or suggest these features. Thus the rejection of claims 6 and 17 under 35 USC 103 over Takaota and Gonzales should be withdrawn.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

A check in the amount of $1496.00 is enclosed for a 3 month extension of time and additional claim fees. The Commissioner is hereby authorized to charge payment for any fees associated

with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

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